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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/198,022	11/23/98	RHOADS	G 4830-51475/W

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EXAMINER

JOHNS, A

ART UNIT PAPER NUMBER

2621

DATE MAILED: 05/29/01

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.

09/198,022

Applicant(s)

RHOADS

Examiner

Andrew W. Johns

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

1. In view of the Reply Brief filed on 03 November 2000, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (a) file a reply under 37 C.F.R. § 1.111 (if this Office action is non-final) or a reply under 37 C.F.R. § 1.113 (if this Office action is final); or,
- (b) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 C.F.R. §§ 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 C.F.R. § 1.193(b)(2).

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-11 and 13-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Szepanski '79 (Article titled "A Signal Theoretic Method for..." from the 1979 Carnahan Conf.), in view of Komastu et al. '88 (Article titled "Authentication System Using Concealed..." from the *Memoirs of the School of Science & Engineering*).

Szepanski '79 teaches a security document (specifically, a passport; see page 102, first paragraph in the section titled "Protective Data Patterns") that includes a substrate (i.e., the

paper), text printed on the substrate (i.e., the “personal data” mentioned at line 5 of the second paragraph, left column on page 102), a graphic carried by the substrate, the graphic conveying a visual impression to human viewers thereof (i.e., the photograph mentioned in the second paragraph, left column on page 102 and the first paragraph in the section titled “Protective Data

5 Patterns” on page 102), the graphic additionally being encoded to convey plural bits of digital data recoverable by computer analysis of the graphic (page 102, first paragraph in the section titled “Protective Data Patterns” which discusses encoding information into the photograph; this data consists of plural bits of digital data as discussed in the right column on page 102; and is recoverable by computer analysis as noted in the final paragraph before the section titled

10 “Protective Data Patterns” on page 102 and discussed in detail in the section titled “Automatic Document Evaluation” beginning on page 103), as stipulated by claim 1. In addition, Szepanski '79 teaches that the printed text and the plural bits of encoded digital data cooperate to verify the authenticity of the security document (as mentioned as the second point in the summaries of the properties in the middle of the left column on page 2 and in the final paragraph of the right

15 column on page 104) as further required by claim 8. Furthermore, the graphic of Szepanski '79 is a photographic image (i.e., the photograph mentioned in the second paragraph, left column on page 102 and the first paragraph in the section titled “Protective Data Patterns” on page 102), as required by claims 2-3 and 9-10 and Szepanski '79 also provides for the digital data to correspond to at least part of the printed text (specifically, the name and birthdate of the

20 document bearer; see the first paragraph of the section titled “Protective Data Patterns” on page 102), as stipulated by claims 4 and 11. Finally, the document of Szepanski '79 is an identity document (specifically, a passport, as noted above), as required by claims 15 and 16.

Szepanski '79 also teaches a photo ID document (i.e., passport) that includes a photograph (i.e., the photograph mentioned in the second paragraph, left column on page 102 and the first paragraph in the section titled "Protective Data Patterns" on page 102) on a substrate (i.e., the paper), the photograph portraying an individual (second paragraph on page 102), multi-bit information encoded within the photograph (page 102, first paragraph in the section titled "Protective Data Patterns" which discusses encoding information into the photograph; this data consists of plural bits of digital data as discussed in the right column on page 102), as stipulated by claim 17. While Szepanski '79 fails to specifically identify the encoded data as noise in the photograph, the values added to the individual pixels of the photograph in the fashion set forth by Szepanski '79 are, by definition, noise because they modify, distort or degrade the quality of the original photograph. Therefore, Szepanski '79 also meets this additional requirement of claim 17.

However, Szepanski '79 fails to specifically teach that the digital data is encoded in the graphic or photograph steganographically, as required by claims 1 and 17, so as to not visibly interrupt the graphic, as required by claims 6 and 13, and, finally, that the noise in the image is only perceptible as a representation of multi-bit digital data by computer analysis and that the encoded graphic does not appear to convey digital data to human viewers, as stipulated in claims 7, 14 and 17.

Komatsu et al. '88 teaches the use of digital watermarks embedded in digital images (see the second paragraph of the abstract, for example) and specifically teaches that such watermarks should not be visible (Item B. at lines 6-7 on page 46) which prevents the detection and removal of the watermark (lines 5-6 on page 49), and allows the original image to remain aesthetically unchanged (final two lines on page 45). Because the of Komatsu et al. '88 increases the strength

of the security provided by the watermark, and because the watermark of Szepanski '79 is used to verify the authenticity of documents (final paragraph in the first column on page 103), it would have been obvious to embed the digital data imperceptibly (i.e., steganographically) in the Szepanski '79 system so that the data does not interrupt the graphic and a human viewer would not discern the presence of the digital data, thus improving the security of the authentication provided therein. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

4. Claims 5 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Szepanski '79 and Komatsu et al. '88 as applied to claims 1-4, 6-11 and 13-17 above, and further in view of Berson et al. (US 5,384,846).

While Szepanski '79 and Komatsu et al. '88 meet a number of the limitations of the claimed invention, as pointed out more fully above, neither Szepanski '79 nor Komatsu et al. '88 specifically teaches that the encoded digital data can serve as an index to a registry containing additional data, as further required by claims 5 and 12.

However, Berson et al. teaches a secure identification card (see the title) that includes encoded information (encoded by coder 22 in Figure 1 and stored on a magnetic strip on the card) that provides an index to a registry that includes additional information (column 5, lines 48-68). Because Berson et al. and Szepanski '79 are both directed towards providing improved security for identification documents, and because indexing additional data in a remote registry improves the security of such a document, it would have been obvious to one of ordinary skill in the art to include such an index in the encoded digital data of Szepanski '79 so as to improve the security of the document. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.


Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Komatsu et al. '90 and Sandford, II et al. each teaches the use of imperceptible watermarks on document images. Wang et al., Chow et al. and Goldman include identification documents that provide for the use of encoded information for verification. Szepanski '81 appears to show encoding information on documents.


6. Examiner Tadayon has left the Office and this application is now assigned to Examiner Andrew Johns in Art Unit 2621. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Johns whose telephone number is (703) 305-4788. The examiner may also be contacted by e-mail using the address: andrew.johns@uspto.gov.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached on (703) 305-4706. The fax phone number for this art unit is (703) 308-6606. In order to ensure prompt delivery to the examiner, all unofficial communications should be clearly labeled as "Draft" or "Unofficial."

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3700.


ANDREW W. JOHNS
PRIMARY EXAMINER

A. Johns
November 20, 2000


LEO H. BOUDREAU
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